

CLAIM AMENDMENTS:

1. (canceled).

2. (canceled).

3. (canceled).

4. (canceled).

5. (new) A common-rail injection system for a diesel engine comprising a main pipe rail with an axially-extending circumferential wall having an inner circumferential surface defining an axial flow passage through said main pipe rail, at least one branch hole extending through the axially-extending circumferential wall of the main pipe rail and communicating with the axial flow passage of the main pipe rail, said main pipe rail being formed from a transformation induced plastic type strength steel, at least portions of which have been processed into residual austenite, said residual austenite being at least at locations adjacent the branch hole and the inner circumferential surface, a compression residual stress being defined in the axially-extending circumferential wall of the main pipe rail at locations adjacent the inner circumferential surface and surrounding the branch hole therein for defining a process induced martensite at said locations.

6. (new) The common-rail injection system of claim 5, wherein the system further includes a branch connecting body extending transversely from the main pipe rail at locations aligned with the branch hole.

7. (new) The common-rail injection system of claim 5, wherein the branch connecting body is formed integrally with the main pipe rail.

8. (new) A method for forming a common-rail injection system for a diesel engine, comprising the steps of:

providing a main pipe rail formed from a transformation induced plastic type strength steel, the main pipe rail having an axially-extending circumferential wall with an inner circumferential surface defining a flow passage through the main pipe rail, a branch hole extending through the axially-extending circumferential wall and communicating with the flow passage;

subjecting the main pipe rail to heat treatment sufficiently for converting at least portions of the transformation induced plastic type strength steel to austenite;

subjecting the inner circumferential surface of the main pipe rail to autofrettage processing for applying an internal pressure and plastically deforming the inner circumferential surface of the main pipe rail for leaving a compression stress on the inner circumferential surface; and

applying a pressing force at a location surrounding the branch hole, whereby the autofrettage processing and the application of the pressing force deposit a process induced martensite at locations on the axial circumferential wall defining the inner circumferential surface and surrounding the branch hole.